CONSCIOUSNESS, ALTERED STATES, AND WORLDS OF EXPERIENCE

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Let us briefly look at the nature of ordinary consciousness (and the ordinary "I"associated with it), and at the nature of altered states *of* consciousness.

Figure 1 is a diagram taken from my systems approach to understanding altered states of consciousness which we will use here to illustrate the major processes constituting consciousness, as are recognized by contemporary psychology. The named blocks represent processes or subsystems of the overall system of consciousness; the arrows represent major channels of information flow. The heavier the arrow, the more information flow. Each process deserves at least a chapter and preferably a book in and of itself, and the interested reader will find more information in *States of Consciousness* (Tart, 1983a).

the major processes constituting consciousness

SUBSYSTEMS OF CONSCIOUSNESS

Exteroception refers to the receptors we have for sensing the world external to our body, our ordinary senses. You read right now with an exteroceptor, your eyes.
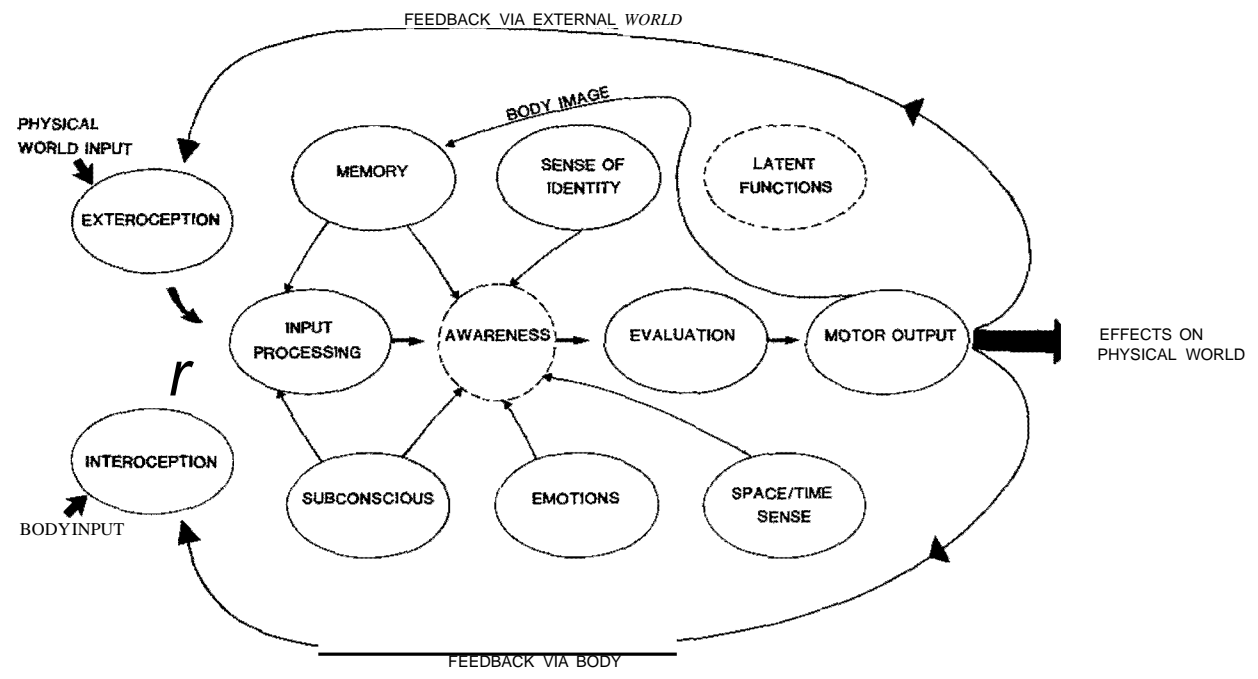
Interoception is the class of processes that give us information about the internal state of our bodies. Noticing a cramped muscle, sensing your balance or your posture are examples of interoception.

Input Processing refers to the fact, amply documented by modern psychology, that our perception is not just given by the nature of the sensations reaching our exteroceptors and

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The Journal of Transpersonal Psychology, 1986, *Vol.* 18, *No.2* 159

FIGURE 1

SYSTEMS ApPROACH TO UNDERSTANDING STATES OF CONSCIOUSNESS

FEEDBACK VIA EXTERNAL *WORLD*

BODY IMAGE

PHYSICAL
WORLD INPUT

MEMORY

SENSE OF
IDENTITY

LATENT
FUNCTIONS

EXTEROCEPTION

INPUT
PROCESSING

AWARENESS

EVALUATION

MOTOR OUTPUT

EFFECTS ON
PHYSICAL WORLD

r

INTEROCEPTION

SUBCONSCIOUS

EMOTIONS

SPACE/TIME
SENSE

BODY INPUT

FEEDBACK VIA BODY

interoceptors, it is a *construction,* a complex process whereby the input from our receptors is shaped, modified, added to. and subtracted from, until it becomes a percept of something familiar. The beliefs and prejudices of our culture result in many semi-arbitrary habits of perception. These complex processes have all become fully automated in the course of enculturaticn, so we normally aren't aware of the steps in the process; it seems as if we just naturally see, hear, feel, etc.

Memory refers to the many ways in which information about previous experiences, thoughts, and feelings is stored. Input processing relies heavily on memory for direction in its construction process.

Awareness is really beyond definition in words, as words are only a small subset of the total functioning of mind. It loosely refers to our ultimate ability to know that something exists or is happening. In ordinary consciousness, awareness is usually almost totally wrapped up in words, internal talking to ourselves (which is what we usually mean by thought), but it is far more basic than words. The systems diagram shows information from input processing feeding into awareness, as does information from most of the other processes shown in Figure 1.

outline of subsystems of consciousness

Sense of Identity refers to a special quality of information that is added to certain contents of awareness, a feeling as well as a cognitive quality that "This is me!"-an "I!" quality that gives, whatever it is added to, special priority for awareness and energy. The perception that "John Smith has a spider crawling toward his leg" doesn't have the feeling quality of the perception that *"1* have a spider crawling toward *my* leg!" Input from your body, via the imeroceptors, is normally an important part of your sense of identity (Tart, 1986).

Emotions are the various ordinary (and not so ordinary) emotions that we experience, such as excitement, fear, anger, love, contentment, etc.

Space! Time Sense is, like input processing, part of the process of constructing our perceptions of our self and our world. It provides a space and time reference. Experiences usually don't just happen; they happen *now,* at *this place.*

Evaluation refers to the various processes of evaluating information: given what I am perceiving and what I already know, what does it mean, what should I do? Evaluation includes relatively formal, conventionally logical reasoning processes and alogical as well as illogical processes. The

emotional processes are evaluation processes too, but have been separated out because of their special quality.

Subconscious processes are the normally invisible intelligent processes we invoke to explain organized experiences and behavior that don't make sense in terms of what a person consciously experiences. When someone claims he is quite calm, for instance, yet shows classical signs of fear, we suspect unconscious mental processes at work. I include positive processes here as well as the conventionally negative, Freudian ideas of the unconscious. Goleman's recent book (J 985) is very helpful in understanding them.

Finally, *Motor Output* refers to processes for controlling our muscles and our bodies (hormonal, e.g.) that take the results of evaluations and decisions and allow us to act on them.

Now this is a far too static view of what is really an interlocking, mutually supportive collection of dynamic processes. Ordinarily, the overall outcome of this dynamically acting and interacting system is *me,* my state of consciousness.

Stabilization of a State of Consciousness

a state of consciousness is stabilized

I want to point out an especially important quality of the system of functioning that makes up our state of consciousness. It is *stabilized;* it generally maintains its overall pattern, its integrity>in spite of constant changes in our external world and our body. A sudden noise can occur, I can have a mild stomach ache, etc., and I still remain *me.* Like any well engineered system, changes are generally compensated for, so they do not push the system out of its range of optimal functioning. If you went into a state of mystical ecstasy whenever there was a flash of light, you might enjoy it for a short while (by ordinary temporal standards), but you might not stay alive for very long. The sunlight glancing off the grill of the truck bearing down on you should not send you into ecstasy, but be interpreted by quite ordinary state standards as a warning that you should get out of the street!

A lot of the stabilization of ordinary consciousness comes about through the load, the work, that all these processes impose on awareness. Because doing this work is almost completely automated, we ordinarily do not feel like we are working hard to maintain our ordinary state; we just seem to be in it. When a lot of that load is removed, as is typically done in inducing altered states of consciousness (relax, don't evaluate,

just float along, ete.), the nature of conscious experience can change drastically.

Another major source of the stabilization of a state of consciousness (ordinary and altered) occurs *through feedback:* information about results is sent back to processes that intended to bring about those results. I want to push a heavy box across the room, but not hit the furniture. I don't just throw all my muscle power into a shove; I shove gradually; I perceive how well the box is moving. Is it too slow? Can I shove a little harder? Is it too fast, will I lose control and run into something?

Figure 1 shows two major feedback loops which are essential in stabilizing our ordinary consciousness. The upper one, feedback via the external world, refers to the fact that we use our exteroceptors to monitor the results of our actions, as with the example of shoving the box. The lower one, feedback via the body, refers to the fact that sensations in our body also tell us about the results of our actions. If I feel a pain starting in my lower back as I begin shoving the box, I had better heed that feedback and work out a different way of moving the box if I do not want to injure myself.

To summarize, ordinary consciousness is a semi-arbitrary construction. In the course of growing up we have built up huge numbers of habits: habits of perceiving, of thinking, of feeling, of acting. The automated functioning of these habits in our ordinary environment constitute a system, the pattern we call our ordinary consciousness. Ordinary consciousness is stabilized, so it holds itself together in spite of varying circumstances. Forgetting the work that went into constructing this as children, and not realizing the cultural relativity and arbitrariness of much of it, we take it for granted as "ordinary" or "normal" consciousness. Note that personality, the set of characteristic behaviors and statements that distinguishes us from others, manifests through our state of consciousness. For the purposes of this paper, "personality" and "state of consciousness" are largely synonymous.

ordinary consciousness is a semi-arbitrary construction

ALTERED STATES

Everyone of the psychological processes sketched above can undergo drastic changes. *To* mention just a few: an ordinary face can be seen as that of an angel or devil. I don't mean *interpreted* here, I mean the actual perception. Your heart can be felt as a glowing mass of radiant energy instead of only a

barely perceptible pulsation in your chest. Your memories can seem like those of someone else, or you may "remember" things that intellectually you know could not be known to you, yet they are "obviously" your memories. Totally new systems of thought can come into play for evaluating reality. What is most dear to you may change drastically. Space and time can function in whole new ways, as in experiencing eternity. Your muscles may work in quite new ways.

an
alteredstate
as a
radical
change

Usually many of these sorts of changes occur simultaneously, and when they do we talk about experiencing an "altered state of consciousness." The change is too radical to see it as a variation of your ordinary state; it is qualitatively as well as quantitatively different.

Consider the following example of an altered state reported by Stafford (1983);

> At one point the world disappeared. T was no longer in my body. I didn't have a body. . . . Then r reached a point at which I felt ready to die. It wasn't a question of choice, it was just a wave that carried me higher and higher, at the same time that I was having what in my normal state I would call a horror of death. It became obvious to me that it was not at all what I had anticipated death to be, except it was death, that something was dying. I reached a point at which I gave it all away. I just yielded, and then I entered a space in which there aren't any words. The words that have been used have been used a thousand times-starting with Buddha. I mean at-one-with-the-universe, recognize your Godhead-all these words I later used to explore what I had experienced. The feeling was that I was 'home' . , . . It was a bliss state of a kind I never experienced before.

The Dream State

To further our understanding of altered states, let us look at the *most* commonly occurring one, nighttime dreaming. Modern sleep research has shown that we all spend about 20% of our sleep time in a specific brain wave state, stage I, associated with the mental activity of dreaming, whether we remember it or not.

Figure 2 illustrates major variations in the functioning of the subsystems of consciousness that occur in nighttime dreaming. The irregular lines indicate that a process functions significantly differently than in ordinary waking consciousness.

In order to dream, we must go to and remain asleep, i.e., we must induce an altered state of consciousness. Usually this

FIGURE 2

MAJOR VARIATIONS IN FUNCTIONING OF SUBSYSTEMS OF CONSCIOUSNESS IN **NIGHTTIME DREAMING**
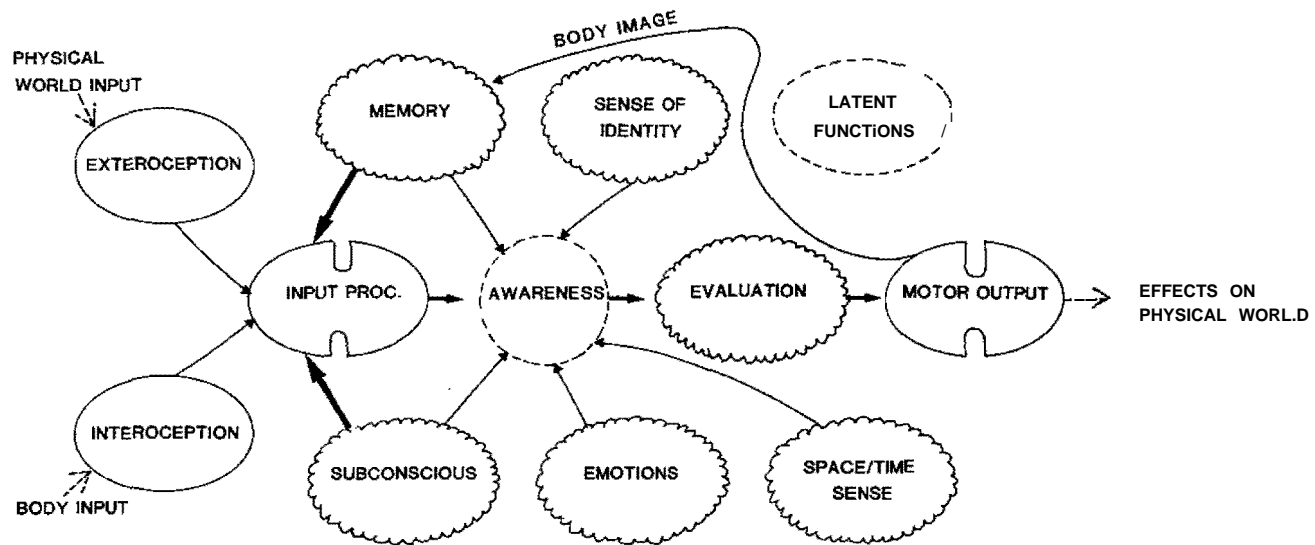
means reducing exteroception and interoception to very low levels. We turn out the lights and close our eyes, eliminating visual input, for example; we relax our bodies and don't move, eliminating interoceptive kinesthetic input. Thus Figure 2 shows little input, represented by small arrows, to the extero- and interoceptors.

Further, we now know that there is a very active inhibition of what input does reach our receptors. Thus input processing is shown as squeezed tight in the middle. If you deliberately stimulate a sleeper, but not intensely enough to wake him, and then awaken him and get a dream report, most stimuli do not make it through into the dream world. The few that do are usually distorted, so they fit in with the ongoing dream. Calling the dreamer's name, for example, could become another dream character asking him about the state of his health!

processes *junction* *in* *different* *ways in* *dreaming* *consciousness*

Memory functions in a quite different way in dream consciousness. In our waking state we usually know when we are drawing information from storage; there is a non-verbal, "This is a memory" quality attached to it. This quality disappears in dreams. The conventional view of dreams is that all the objects in the dream world are constructed from memory images, yet dreaming is experienced as *perceiving,* not as *remembering.*

Similarly our sense of identity, our emotions, and our evaluation processes can operate quite differently, as if the dream were of someone else with different emotional reactions and styles of thinking. What is sensible by dream standards may be outrageous by waking state standards. The space/time sense is totally changed: instead of accurately putting your experiences in their "real" context of you lying in bed at night, you may be at a palm-lined oasis in the next century.

Let us look at another common characteristic of dreams: dreams usually seem to just *happen* to us, rather than feeling like our active creations. Who is creating this world and these actions? Where does the scenery come from, how do the various actors know when to come on stage?

The subconscious is given the credit for the intelligent and active creation of dreams, since the dreamer declines credit. This is not a terribly good explanation of course, but it is the best we have at this time ...   and a good reminder of how little we understand about our minds.

Finally note that the motor output processes are shown as squeezed tight in the dreaming state of consciousness, as input processing is. This reflects the fact that you perform all sorts of

physical actions with what you take to be your physical body in your dreams, yet an outside observer sees that you lie still. Modern research has now shown that neural signals for movement are indeed sent to our muscles during dreaming.just as when we are awake. If you dream of lifting your arm, all the necessary signals are sent to make your arm move that way. But there is an active paralysis of our muscles during nighttime dreaming. Inhibitory signals are sent down the spinal cord to the muscles themselves so they will not respond. A good thing, too: it would be very dangerous to be physically moving about while our consciousness was in dreamland! The major exception to this overall inhibition is our eyes, which do move to follow the dream world imagery, just as if we were awake and actually looking at it. There is no practical danger in moving your eyes around while you sleep, so no inhibition is needed here.

No External Feedback in the Dream State

I emphasized earlier that a state of consciousness is a dynamically interacting and *stabilized* system. Ordinary waking consciousness is especially stabilized by two major routes, feedback via the external world and the exteroceptors, and via the internal world, the body, through the interoceptors. In dreaming, these major stabilization routes are lost, and so are shown as light, dotted lines in Figure 2, in contrast to their importance in Figure I. In your dream you raise your arm and move a gigantic boulder, weighing tons. There is no actual input from the interoceptors in your physical arm to contradict the *idea* of your doing this. There is no actual perception via your physical eyes that there is no boulder there to contradict the *idea* of moving a gigantic boulder. What little "feedback" there is is from your body image, rather than your actual physical body. The *idea* thus has far more power to affect your construction of "reality," the. experience you realize in the dream state, because there is almost no input from a fixed, lawful external reality that your internal idea must be consistent with.

major stabilization routes are lost in dreaming

We must accept the fact that usually a dream is perfectly real at the time it is occurring (1 exempt lucid dreams, in which you know that you are dreaming while dreaming, from this discussion). For me, for instance, dream reality is just as "real" as ordinary reality, if not sometimes "realer." As I have theorized elsewhere (Tart, in press), the world simulation process in dreaming is essentially the same as in waking. So where do we get the idea that it is imaginary? Let us look at the nature of experience.

Basically, I can say that most of my experience readily falls into three general categories, that I shaH call "worlds." (We could just as well call them "states of consciousness," but I want to stress the apparent "externality" of them here.) World I takes **up** most of my experienced life. It is a very rigid set of experiences; that is, its reality seems to be governed by some inflexible laws, such that most situations in it cannot be altered directly by my desires or will; [have to do things according to laws which seem external to me. If I want to move a heavy boulder, for example, I have to get long levers or a block and tackle and exert my muscles strongly.

waking consciousness While World I is rigid, though, it is also very reliable. The boulder will not move by itself or do anything unexpected unless quite specific events happen, such as someone else using a block and tackle on it, or an earthquake occurring. For normal conversational purposes I, like the apparently independently existing entities I meet in it, call this World 1 reality of experience my "waking consciousness."

dreamless sleep World 2 of my experiential reality takes up the least amount of experienced time by the yardstick of my direct experience, but the second largest amount of time by some of the regular experiences of my World 1 reality. My usual direct experience of World 2 is of nothing happening at all, but a feeling of some unknown amount of time having passed occurs right at the end of World 2 experience. By World 1 standards, *insofar as they are appropriate to apply outside their own experiential realm,* World 2 occupies almost a third of my life. When I am in the midst of World 1 experience I call my World 2 experience "dreamless sleep.' When I am in the midst of World 2 experience I generally do not call it anything at all.

dreams My World 3 experiential reality is like my World 1 reality in many ways. I see, taste, touch and smell; I feel pleasure and pain; I reflect on things and reach conclusions; I plan and carry out actions. World 3 experience occupies only a small amount of my total experience by World 1 standards, but in its own terms it sometimes is brief, sometimes quite long. The apparently external laws and regularities that operate in World 1 experience make their appearance here, but generally are much more loosely applied. Sometimes I can move that boulder just by thinking about it; other times it may move by itself for no apparent reason. Sometimes I find principles or laws that only work for World 3 experience. I can fly by an act of will in World 3 experience, for example. It is a special mental

act that must be done correctly, and this act of will has no effect in World 1.

When in the midst of World 1 experiences, I generally call my World 3 experiences "dreams." **In** the midst of World 3 experience, it is usually just as real as anything else I experience in any World.

World 1 Invalidation of World 3

Now this is the really curious thing. In World 1, I and practically all of the other ostensibly independently existing beings I experience as part of it have convinced themselves that only World 1 experience is real and worthwhile, and that World 3 experience, dreaming, is useless, unreal, and totally delusory! Why? Because it is not consistent in the way that World 1 experience is, and because it does not accurately mirror the regularities and events of World 1. I, a being who knows nothing directly but my own experience, have convinced myself that part of my direct knowledge, direct experience, which I know just as directly when I experience it as any other kind of direct experience, isn't real.

real and unreal characteristics of experience

This dismissal of dream experience as unreal and delusory is, of course, culturally relative. Some cultures still accept dream reality as real and important, even if it isn't an accurate mirror of ordinary reality. Indeed it is only a historically recent development in our own culture to reject dreams so thoroughly. The rejection of the reality of dreams goes hand in hand with a mainstream rejection of the reality of altered states in general.

STATE-SPECIFIC KNOWLEDGE

We have been skirting around one of the most important qualities of knowledge, namely that it is *state-specific. What you can know depends on the state of consciousness you are in.*

A simple analogy is using a net to troll through the ocean. If your net has a one inch mesh, it will not pick up anything that is smaller than an inch, thus excluding an enormous amount of life. If you understand this property of your net, your "data collection system," there is no problem. If you are too enamored of it, you are likely to think that ocean life is all bigger than one inch. You cannot study small life with your net.

Altered state of consciousness research has shown us that some

kinds of human knowledge are *state-specific* (Tart, 1983a). If you aren't in a certain state of consciousness, certain things cannot be known.

Some knowledge is only partially state-specific, in that it can be known in two or more states of consciousness. If you ask someone the street address of his home, for example, he will probably give you a correct answer in his ordinary state, in a dream state (assuming you are some dream character asking the question), in a sexually aroused state, in a depressed state, and in a state of alcohol or marijuana intoxication. But there are things you can know in an altered state of consciousness that you cannot really remember in your ordinary state, much less tell others about in any adequate way.

the
importance
of
state-
specific
knowledge

If we want to know all that a human can know, we must study some things in an appropriate altered state of consciousness. If we do not enter that state and work appropriately with it, we will never really know the answers. I think one of the tragedies of our times is that we have forgotten about the state-specificity of knowledge in regard to many vital spiritual questions. Thus we approach them only from an ordinary states perspective, and get answers that are distorted and pale reflections of reality. We have, a.s it were, traded direct knowledge of something like Unity of Life for abstract verbal statements and theories about unity. The development of the state-specific sciences that I have proposed (Tart, *1972;*1983b) will greatly increase our knowledge of human nature.

REFERENCES

GOLEMAN, D. (1985). *vital ltes, simple truths: The psychology of self-deception.* New York: Simon & Schuster.

STAFFORD, P. (1983). *Psychedelics encyclopedia.* Los Angeles: Tarcher,

TART, C. T. (1972). Stages of consciousness and state-specific sciences. *Science,* 176, 1203-1210.

TART, C. T. (1983a). *States of consciousness.* EI Cerrito, CA: Psychological Processes Inc. (Originally published New York: Dutton, 1975).

TART, C. T. (Ed. 1983b). *Transpersonal psychologies.* El Cerrito, CA: Psychological Processes Inc. (Originally published New York: Harper & Row, 1975).

TART, C. T. (1986). *Waking up: Overcoming the obstacles to human potential.* Boston: Shambhala/New Science Library.

TART, C. T. (in press). The world simulation process in waking and dreaming: A system analysis of structure. *Journal of Mental Imagery.*